

WHAT IS CLAIMED IS:

SUB
A2

- 1) An improved toner, comprising:
 - (a) a colorant;
 - (b) a toner resin mixed with the colorant, wherein each combined resin and colorant particle has an average size greater than 4 microns; and
 - (c) surface additive particles averaging greater than 30 nanometers in size, wherein the amount of such surface additives average greater than two (2) percent of the combined weight of resin and colorant in the toner.
- 2) The improved toner of **claim 1**, wherein the toner resin further comprises internal additives.
- 3) The improved toner of **claim 1**, wherein the combined resin and colorant particle has an average size in the range of 4 to 10 microns.
- 4) The improved toner of **claim 1**, wherein the amount of surface additives average greater than three (3) percent of the combined weight of resin and colorant in the toner.
- 5) The improved toner of **claim 1**, wherein the amount of surface additives average greater than four (4) percent of the combined weight of resin and colorant in the toner

1002496-122101

6) The improved toner of **claim 1**, wherein the AAFD percent value after 10 minutes of sonification and 12kJ of energy is greater than 40 percent.

7) The improved toner of **claim 6**, wherein the AAFD values were obtained using four (4) 5/8 inch horns emitting at a frequency of 19.95 kHz from a distance of approximately 2 mm.

8) The improved toner of **claim 1**, wherein the toner is blended for less than 10 minutes.

9) The improved toner of **claim 6**, the AAFD percent value is measured on toners blended for less than 10 minutes.

^{SUB A3} 10) The improved toner of **claim 1**, wherein the AAFD percent value after 5 minutes of sonification and 6kJ of energy is greater than 60 percent.

^A 11) The improved toner of **claim 1**, wherein the AAFD percent value after 2.5 minutes and 3kJ of energy is greater than 80 percent.

12) The improved toner of **claim 2**, wherein:

- (a) the combined resin and colorant particle has an average size in the range of 4 to 10 microns;
- (b) the surface additive particles average between 30 and 50 nanometers in size and wherein the amount of such surface additives average greater than four (4) percent of the combined weight of resin and colorant in the toner; and
- (c) the AAFD percent value after 10 minutes of sonification and 12kJ of energy is greater than 40 percent.

13) The improved toner of **claim 13**, wherein the AAFD values were obtained using four (4) 5/8 inch horns emitting at a frequency of 19.95 kHz from a distance of approximately 2 mm.

14) The improved toner of **claim 13**, wherein the AAFD value after 5 minutes of sonification and 6kJ of energy is greater than 60 percent.

15) An improved toner made by an improved process, comprising:

- (a) mixing a toner resin and a colorant;
- (b) extruding the resin and colorant mixture;
- (c) attriting the resin and colorant mixture;
- (d) classifying the attrited particles into particles averaging 4 to 10 micron in size; and
- (e) blending sufficient surface additive particles and the classified particles in a high intensity blender for at least 10 minutes such that the weight of surface additives that become attached is greater than three (3) percent of the weight of the classified particles.

16) The improved toner of **claim 15**, wherein the weight of attached surface additives is greater than four (4) percent of the weight of the classified particles.

17) The improved toner of **claim 15**, wherein the blending is intense enough to yield AAFD percent values after 10 minutes of sonification and 12kJ of energy greater than 40 percent.

18) The improved toner of **claim 15**, wherein the blending is intense enough to yield AAFD percent values after 5 minutes of sonification and 6kJ of energy is greater than 60 percent.

10024196 122101

19) An improved process for making toners, comprising:
 (a) mixing a toner resin and a colorant;
 (b) extruding the resin and colorant mixture;
 (c) attriting the resin and colorant mixture;
 (d) classifying the attrited particles into particles averaging 4 to 10 micron in size; and

(e) blending sufficient surface additive particles averaging greater than 30 nanometers in size with the classified particles in a high intensity blender for at least 10 minutes such that the weight of surface additives that become attached is greater than three (3) percent of the weight of the classified particles.

20) The improved process of **claim 19**, wherein the blending is intense enough to yield AAFD percent values after 10 minutes of sonification and 12kJ of energy greater than 40 percent.

Add
A4